

WHAT IS CLAIMED IS:

- 5 ~~1. A composite reverse osmosis membrane comprising a porous support and a polyamide skin layer formed on the porous support, wherein the polyamide skin layer is formed by reacting an aromatic compound having at least two reactive amino groups with a polyfunctional acid halide compound having at least two reactive acid halide groups, and the polyamide skin layer contains bromine.~~
- 10 2. The composite reverse osmosis membrane according to claim 1, wherein the aromatic compound portion of the polyamide skin layer has bromine.
- 15 3. The composite reverse osmosis membrane according to claim 1, wherein a ratio (Br/N) of the number of bromine atoms (Br) to nitrogen atoms (N) of the amino groups is not less than 0.1 and not more than 1.0.
- 20 4. The composite reverse osmosis membrane according to claim 1, wherein an isopropyl alcohol rejection at a temperature of 25 °C, a pH of 6.5, and an operational pressure of 1.5MPa is at least 98.5%, when a 0.3wt% isopropyl alcohol aqueous solution is used as a feed solution.
- 25 5. The composite reverse osmosis membrane according to claim 1, wherein a salt rejection at a temperature of 25 °C, a pH of 6.5, and a flux of  $0.6\text{m}^3/\text{m}^2 \cdot \text{day}$  is at least 99%, when a 3.5wt% salt water containing 5ppm of boron is used as a feed solution, and a boron rejection is at least 85% under those conditions.
- 30 6. A method for producing a composite reverse osmosis membrane comprising forming a polyamide skin layer on a porous support by reacting an aromatic compound having at least two reactive amino groups with a polyfunctional acid halide compound having at least two reactive acid halide groups, and treating the polyamide skin layer with a free chlorine aqueous solution containing bromine compound.
- 35 7. The method for producing a composite reverse osmosis membrane according to claim 6, wherein a concentration of free chlorine in the free chlorine aqueous solution is 1 to 100mg/l.

8. The method for producing a composite reverse osmosis membrane according to claim 6, wherein a concentration of bromine in the free chlorine aqueous solution is 0.5 to 100mg/l.

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9. The method for producing a composite reverse osmosis membrane according to claim 6, wherein a pH of the free chlorine aqueous solution is in a range from 4 to 6.8.

10 10. The method for producing a composite reverse osmosis membrane according to claim 6, wherein the treatment is performed under pressure.

11. The method for producing a composite reverse osmosis membrane according to claim 6, wherein a flux of the composite reverse osmosis  
15 membrane is reduced by the treatment by at least 10% of a flux before the treatment.